

**K-4: The student will demonstrate an understanding of seasonal weather changes.
(Earth Science)**

Key Concepts: weather changes and patterns,
seasons (winter, spring, summer, autumn/fall)

Supporting Content Web Sites

The Four Seasons

<http://www.windows.ucar.edu/tour/link=/earth/Atmosphere/season.html&edu=elem>

A brief explanation and pictures of each season are provided.

K-4.2, K-4.3

Cycles in Nature

<http://oncampus.richmond.edu/academics/education/projects/webunits/cycles/>

Site takes a look at cycles in nature. An explanation of day and night, the different phases of the moon, seasonal changes and tides is provided. Click on seasonal changes for specific information on seasons.

K-4.2

Seasons

<http://www.learninghaven.com/science/articles/seasons.htm>

Learn how earth's tilt, indirect sunlight, and earth's orbit all work together to produce the seasons.

K-4.3

Up in the Sky

<http://www.lil-fingers.com/sky/index.html>

Interactive story about what is in the sky. Story goes from sun, to rain, to rainbows to night sky.

K-4.1

Zoe's Silly Season

<http://www.sesameworkshop.org/sesamestreet/games/flash.php?contentId=111660>

Students look at a picture that scans through the seasons and finds what is wrong with the season in the picture.

K-4.3

Seasons

www.kizclub.com/seasonstory/season1.html

A story that takes you through the seasons of the year.

K-4.2, K-4.3

Four Seasons

<http://www.oulu.fi/northnature/english/englanti/ajankohtalvi.html>

Students take a look at pictures of the different seasons and animal that might be present during that season.

K-4.3

Suggested Literature

Glaser, L. (2002). *It's Spring*. Connecticut: Millbrook Press.

ISBN: 0761317600

This book highlights the season Spring, and shows animal and plant life throughout the season.

The book also takes a look at weather patterns during this season.

K-4.2, K-4.3

Gibbons, G. (1996). *Reasons for Seasons*. New York: Holiday House, Inc.

ISBN: 0823412385

Lexile Level: AD620L

An explanation of how the position of Earth in relation to the sun causes seasons, and the wonders that come with each one of them.

K-4.2

Nelson, R. (2001a). *A Cloudy Day*. Minnesota: Lerner Publications Co.

ISBN: 0822501724

Text emphasizes weather patterns and looks at types of clouds and cloudy day facts.

K-4.1, K-4.2

Nelson, R. (2001b). *A Sunny Day*. Minnesota: Lerner Publications Co.

ISBN: 0822501767

Lexile Level: 150L

This book features full-color weather photographs. Text has informational pages on weather, light, and shadows.

K-4.2

Nelson, R. (2001c). *A Windy Day*. Minnesota: Lerner Publications Co.

ISBN: 0822501740

This book features full-color weather photographs. Informational text on weather vanes and windy days is given.

K-4.2

Rau, D. (2005). *Amazing Science: Hot and Bright—A Book About the Sun*. Minnesota: Picture Window Books.

ISBN: 1404811354

This text explains scientific information related to the sun. Students will learn that the sun is our closest star, how sunspots work, how seasons come to be, and the effects the Sun has on our shadows.

K-4.2

Schnur, S. (2000). *Spring Thaw*. London: Puffin Books

ISBN: 1575843730

Lexile Level: AD770L

Text explores the changes in farmland as spring arrives. This story looks at gathering maple syrup, young lambs, and the return of birds.

K-4.2, K-4.3

Thayer, T. (2002a). *Seasons: Fall*. Minnesota: Lerner Publications.
ISBN: 0822519917

Fall uses familiar scenes to show time and climate changes. Show the fact days get shorter in the fall and that leaves change colors.

K-4.2

Thayer, T. (2002b). *Seasons: Spring*. Minnesota: Lerner Publications.
ISBN: 0822519909

Spring uses familiar scenes to show time and climate changes. The book shows changes in flowers, weather, and kite flying.

K-4.2

Thayer, T. (2002c). *Seasons: Summer*. Minnesota: Lerner Publications.
ISBN: 0822519887

Summer uses familiar scenes to show time and climate changes. Text show what happens between happenings in nature and human involvement.

K-4.2

Thayer, T. (2002d). *Seasons: Winter*. Minnesota: Lerner Publications
ISBN: 0822519895

Winter uses familiar scenes to show time and climate changes. This book depicts events such as the measures people take to stay warm during cold weather

K-4.2

Yolen, J. (1998). *Welcome to the Ice House*. New York: Putnam
ISBN: 0399230114

Lexile Level: AD870L

This book looks at the Arctic as it progresses through all the seasons of the year. Students look at the lives of animals and the changes they experience.

K-4.2, K-4.3

Suggested Data Streaming Video

The Four Seasons

ETV Streamline

From the snow of winter to the first flowers of spring, children see the wonder and magic of our changing seasons and the patterns of life. Students witness how changes in climate and weather affect their lives. They understand that weather changes seasonally, affecting the earth and the people who live on the earth.

0:00-15:00

K-4.2

Brave Irene

ETV Streamline

Irene summons up all her courage in the face of a fierce snowstorm when her mother falls ill and Irene must deliver a ball gown to the duchess. An engaging media adjunct for language arts units, the program may also be used to promote discussions on nature, weather, and the seasons.

0:00-13:00

K-4.1, K-4.2

In the Small, Small Pond

ETV Streamline

The classic children's book by Denise Fleming comes to life! Spring is here in this cheerful introduction to the seasons. Frogs leap, tadpoles wriggle, geese waddle, and minnows scatter. Young kids won't want to miss a single splash. Stunning art is a feast for the youngest eyes. Narrated by Laura Dern. Part of the Weston Woods Series.

0:00-5:00

K-4.2, K-4.3

Play and Discover with Digger and Splat: Seasons

ETV Streamline

Children join puppets Digger and Splat on an exciting "magic toy box" ride through the seasons and find out exactly what happens in spring, summer, autumn, and winter. On the way, viewers will meet many more amazing characters: there's Didi, Lula, Bookworm, and Robofact - not to mention the birds and the bees!

0:00-17:30

K-4.2, K-4.3

Through the Seasons with Birds: Fall

Fall Begins

ETV Streamline

Children will see changes that happen in fall. This clip shows what happens with the weather and with birds during this season.

00:00-00:51

K-4.2, K-4.3

Through the Seasons with Birds: Spring

Spring Begins

ETV Streamline

Children will see changes that happen in spring. This clip shows what happens with the weather and with birds during this season.

00:00-01:25

K-4.2, K-4.3

Through the Seasons with Birds: Summer

Summer Begins

ETV Streamline

Children will see changes that happen in summer. This clip shows what happens with the weather and with birds during this season.

00:00-01:33

K-4.2, K-4.3

Through the Seasons with Birds: Winter

Winter Begin

ETV Streamline

Children will see changes that happen in winter. This clip shows what happens with the weather and with birds during this season.

00:00-00:34

K-4.2, K-4.3

Concepts in Nature: Adapting to Changes in Nature

A Closer Look at Nature

ETV Streamline

This program explains how plants and animals cope with both routine and unpredictable changes in nature.

00:00-3:36

K-4.2, K-4.3

Career Connections

Atmospheric Scientist

Atmospheric science is the study of the physics and chemistry of gases, clouds, and aerosols that surround the planetary bodies of the solar system. Atmospheric scientist may study the atmosphere of different planets or may focus on Earth's atmosphere.

Atmospheric scientists may work in the following areas: field research, laboratory studies and/or computer analysis and modeling. Good communication skills (oral and written) are necessary as they are involved in carrying out research and reporting it out. Most atmospheric scientist in the United States work for the Federal Government and branches of the National Oceanic and Atmospheric Administration or may work for private weather services. (K-4)

Meteorologist

Meteorologist forecast weather. They compare temperature readings, winds, atmospheric pressure, precipitation patterns, and other variable to form an accurate picture of climate. They are able to draw conclusions to make predictions, develop computer models and carry out basic research to help understand how the atmosphere works so they can predict how it behaves. (K-4)

Storm Chasers

Storm chasers are scientists who follow tornadoes to study them. They try to drop weather instruments into the paths of tornadoes to measure the air temperature, air pressure, wind speed, and wind direction inside a tornado. This can be a difficult and dangerous career. Storm chasers rely heavily on meteorologist who predicts the storms and then guide them to the most promising systems. (K-4)

Climatologist

Climatologists study climate change, climate variability, and the effects of climate on the biosphere. They use computers to predict the effect of weather or climate on the growth and development of grain, vegetables, fruit, and other crops. Climatologists work for state and federal governments as weather station network supervisors, computer programmers, and supervisors of climate data publications. (K-4)

Ecologist

Ecologist study the relationship between living things and the environment. They conduct research outdoors and in the laboratory. They apply ecological knowledge to solve environmental problems and help manage natural resources. (K-4)